DEFENSE COLLABORATION TOOL SUITE: A Journey in Collaboration Interoperability

Presented to the
Third Joint/Allied WEB Interoperability Meeting

LtCol Dave Hagopian, USMC
The Joint Staff/J6D
(703) 697-4231
david.hagopian@js.pentagon.mil

LEVELS OF COLLABORATION

LEVELS	Activities	Tools
5. Shared Intent	• Shared purpose • Co-dependency	• Strategic Alliances
4. Joint Work	• Shared goals • Joint creation of goals • Cross-organization teams	• Workflow • Whiteboard • Shared Applications
3. Coordination	• Shared plans • Group Meetings	• Decision Support • Brainstorming Tools
2. Shared Information	• Conferences, Workshops • Tutorials, Briefings • Presentations	• E-mail, Chat, VTC • Web Pages, Portals • Publications
1. Awareness	• Shared calendars • Shared presence	• **Electronic Calendars** • **Publish/subscribe, Email aler** • **Presence** • **Expert Finder, Knowledge Ma**

Collaboration Vision

Current Focus
Solutions in 2-3 Yea
Solutions in 3-5 Yea

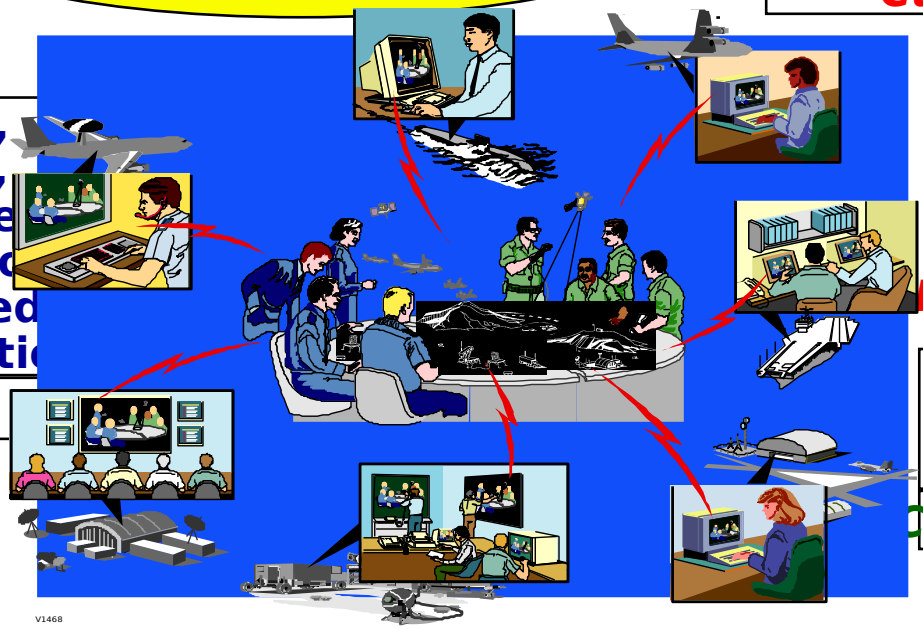
Seamless collaboration across geographic, temporal, operational, and organizational boundaries

Values
Incentives, Policy
Teaming

Culture

Process/Workflow
Application Sharing
Context Exchange

Semantic Collaboration



User,
task,
device
situatio
tailored
interacti

HCI

Intelligent agents that log, filter, search, extract, translate, fuse, mine, summarize, alert, ...

Instrumentation and Intelligent Multimodal Participants

Rooms
Sessions
Directories

Context Management

Scalability
Distribution
Components

Architectures

Audio
Video
Chat

Conferencing

Whiteboard
Documents
Files

Shared Data

Multicasting, Mobility
High Speed Networking
Fault Tolerance, QOS

Infrastructure

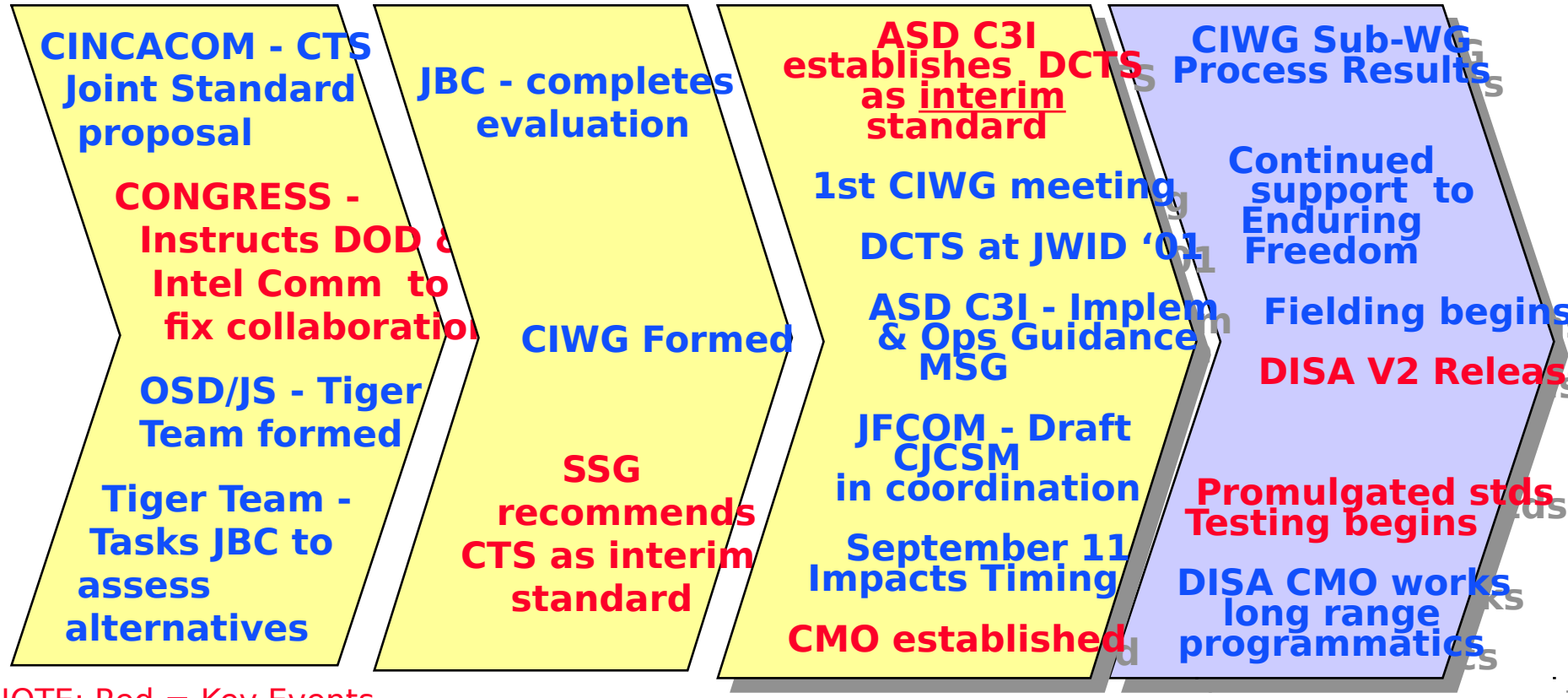
VPNs
Extranets
PKI

Security

PURPOSE

Evolve to Standards-based Collaboration

DCTS Chronology


1999
2000
2001
2002
CINCACOM - CTS Joint Standard proposal
CONGRESS - Instructs DOD & Intel Comm to fix collaboration
OSD/JS - Tiger Team formed
Tiger Team - Tasks JBC to assess alternatives
JBC - completes evaluation
CIWG Formed
SSG recommends CTS as interim standard
ASD C3I establishes DCTS as interim standard
1st CIWG meeting
DCTS at JWID '01
ASD C3I - Implem & Ops Guidance MSG
JFCOM - Draft CJCSM in coordination
September 11 Impacts Timing
CMO established
CIWG Sub-WG Process Results
Continued support to Enduring Freedom
Fielding begins
DISA V2 Release
Promulgated stds
Testing begins
DISA CMO works long range programmatics

NOTE: Red = Key Events

Collaborative tools must be interoperable

BACKGROUND

FY-01/02

- **CIWG to further DOD Collaboration Strategy:**
  - **Work policy, planning, & implementation issues**
  - **Partner with industry**
  - **Develop standards**
- **Limited funding curtailed the centralized deployment of a DOD tool:**
  - **Numerous proprietary and non-interoperable collaboration tools used in DOD**
- **Feb 02 DERF Funding received:**
  - **DISA establishes Collaboration Management Office (CMO)**
  - **Combatant commands IOC Sep 02 with Defense Collaboration Tools Suite (DCTS)**
  - **NMCC install underway**

COLLABORATION STANDARDS

- **Awareness, access**
  - **Locate a person, room, or meeting regardless of which collaboration system they are in**
- **Synchronous Collaboration**
  - **chat, audio, video, shared apps**
- **Asynchronous Team Collaboration**
  - **virtual workspace**
- **Asynchronous Collaboration**
  - **shared files, documents**

STANDARDS
IMPP, LDAP, PKI
IRC, H.320/323, T.120, SIP
HTML, XML, UDDI, WDSL
URL, XML, .doc, .ppt, etc

Baseline DoD Collaboration Requirements (USJFCOM/JBC and ASD C3I, 2000)

UNCLASSIFIED

BACKUP

Functional Capabilities

Requirement	JTA Standard / COTS product
• Locate & contact a person, virtual work-space, or conference on any server in the world	XML->LDAP3 Envoke (Asynchrony) +others to follow New COTS product, but stds based
• Provide a set of "team rooms" for groups of people to work problems on a standing basis – access control – shared documents – access to community apps	Evolving T.13X std Digital Dashboard, Sharepoint (Microsoft) +others to follow millions of seats deployed 10s of millions of seats deployed!
• Provide access to real-time meeting sessions – access control – chat, audio, video – white board – shared applications	T.120, H.323 NetMeeting (Microsoft) SunForum (SUN) CuSeeMe MCU MS Windows Media Services +others to follow 8 million seats deployed!

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DOD COLLABORATION INTEROPERABILITY PARTNERSHIP TESTING PROCESS

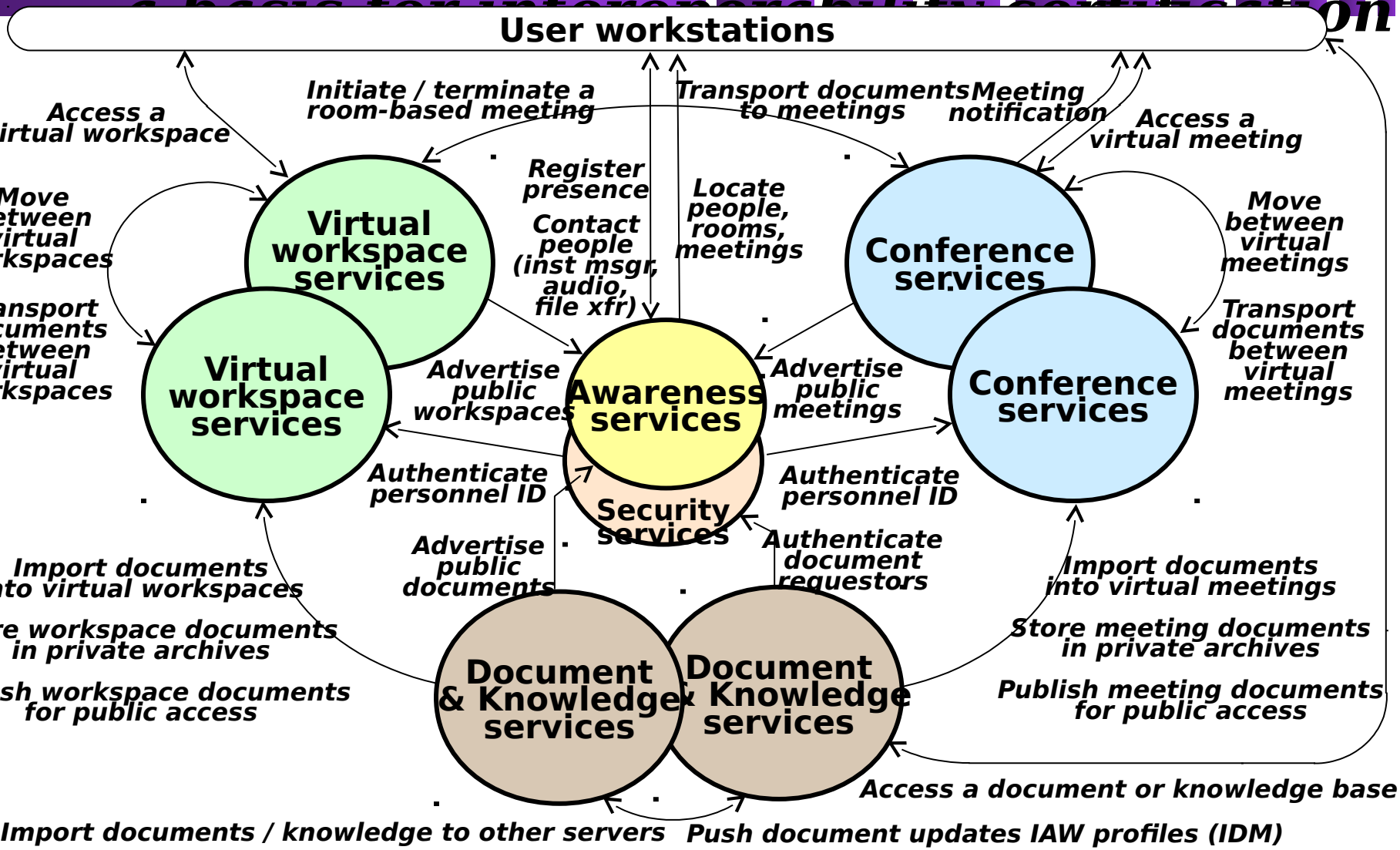
- C/S/A Planner Level coordination and Data Interoperability Panel endorsement
- ASD (C3I)/J6/J2/J3 coordinated message:
  - articulates testing process
  - establishes test criteria for certifying collaboration interoperability
- Testing begins 15 Oct 02
- Result: Approved Product List

Ensure collaborative tools are GIG compliant

BENEFITS … THOUGHTS

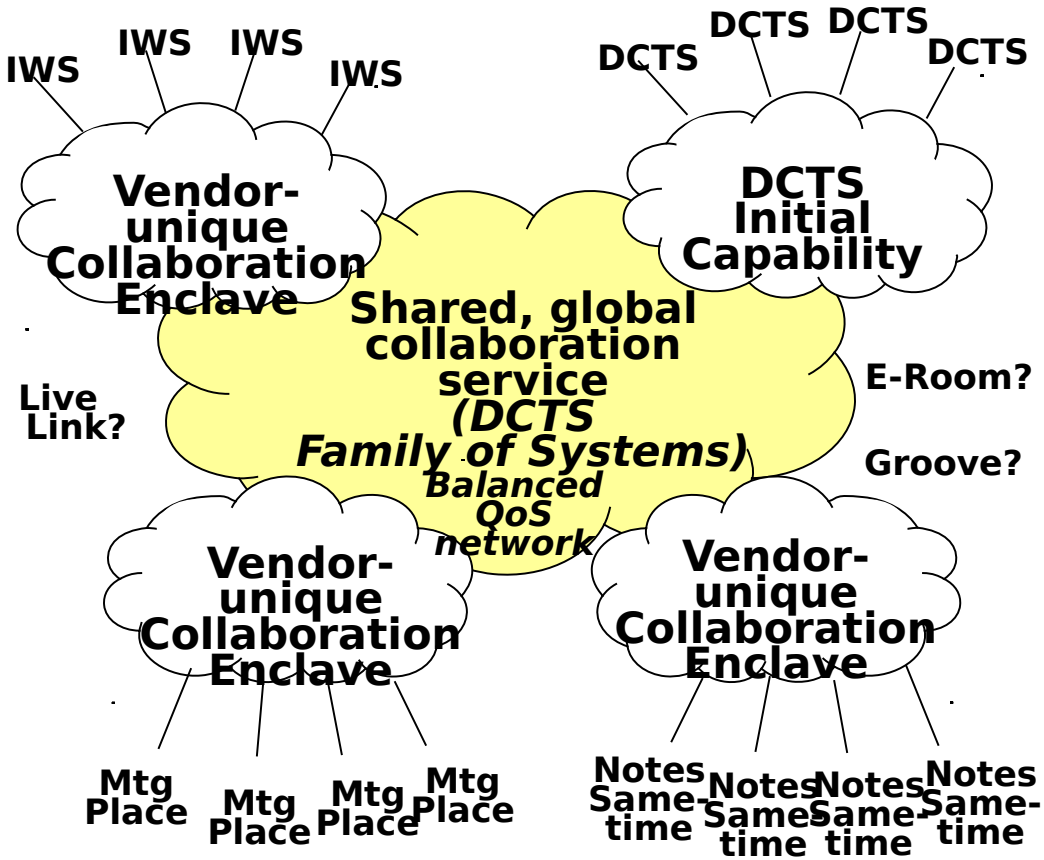
- Eventually, collaboration compliance should be a component of authority to connect to DoD networks; Preferred product for DoD Programs
- Certification documentation could be required as part of milestone decisions
- Minor programs … program manager determines level of interoperability required for the domain of his application & requests appropriate testing from vendor or JITC
- Easier connection to DoD networks
- DAA or equivalent grants ATO based on both security and interoperability certification
- JEMPRS-NT=Joint Enroute Mission Planning and Rehearsal System-Near Term

State Diagram for Inter-Enterprise Collaboration


User workstations
Access a virtual workspace
Initiate / terminate a room-based meeting
Transport documents to meetings
Meeting notification
Access a virtual meeting
Move between virtual workspaces
Register presence
Contact people (inst msgr, audio, file xfr)
Locate people, rooms, meetings
Move between virtual meetings
Transport documents between virtual workspaces
Virtual workspace services
Conference services
Virtual workspace services
Awareness services
Conference services
Transport documents between virtual meetings
Advertise public workspaces
Advertise public meetings
Authenticate personnel ID
Authenticate personnel ID
Security services
Advertise public documents
Authenticate document requestors
Import documents into virtual workspaces
Import documents into virtual meetings
Store workspace documents in private archives
Store meeting documents in private archives
Publish workspace documents for public access
Publish meeting documents for public access
Document & Knowledge services
Document & Knowledge services
Access a document or knowledge base
Import documents / knowledge to other servers
Push document updates IAW profiles (IDM)

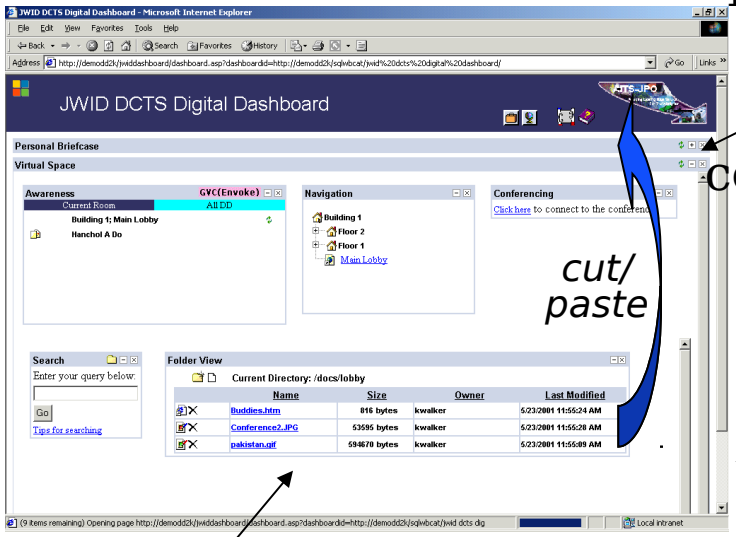
Standards-based Collaboration

- **Personnel presence/ instant comms**
  - *msging, voice, video*
  - *file transfer, share*
- **Advertise, find, join a meeting or room** ***(w/security access)***
  - *create/delete a room & access list*
  - *schedule a meeting*
  - *federate a meeting when it overflows*
- **Place, access a DB, document, app, page in a room/meeting** ***(w/security access)***
  - *create/edit a data, app, doc, app, page access list*
  - *propagate updates to data*
  - *profiled data updates (IDM) to a room*
- **Group share an app, document, or whiteboard**
  - *secure T.120 --> custom apps*
  - *H.323 conferencing support*



- **Optional portal/team features:**
  - *MS Office, Outlook e-mail*
  - *Team Calendars, meeting scheds*
  - *Team Paging*
  - *Simultaneous room presence*

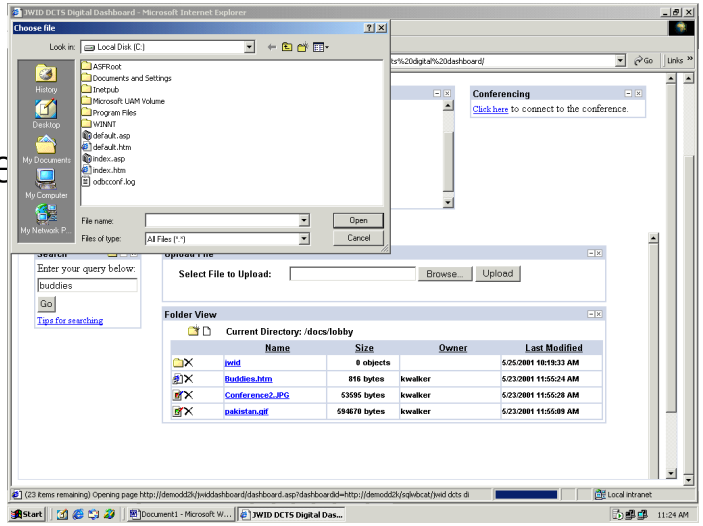
DCTS Certification Test
Document Access/Posting to & from any system



Transport file to another room or conference server

cut/ paste

import file or app



Documents posted to team room

Upload file to team room

SIPRNET or NIPRNET

save as

DCTS Document Server (MS Sharepoint)

IWS Document Server (Placeware)

CAS Document Server (Lotus Notes)

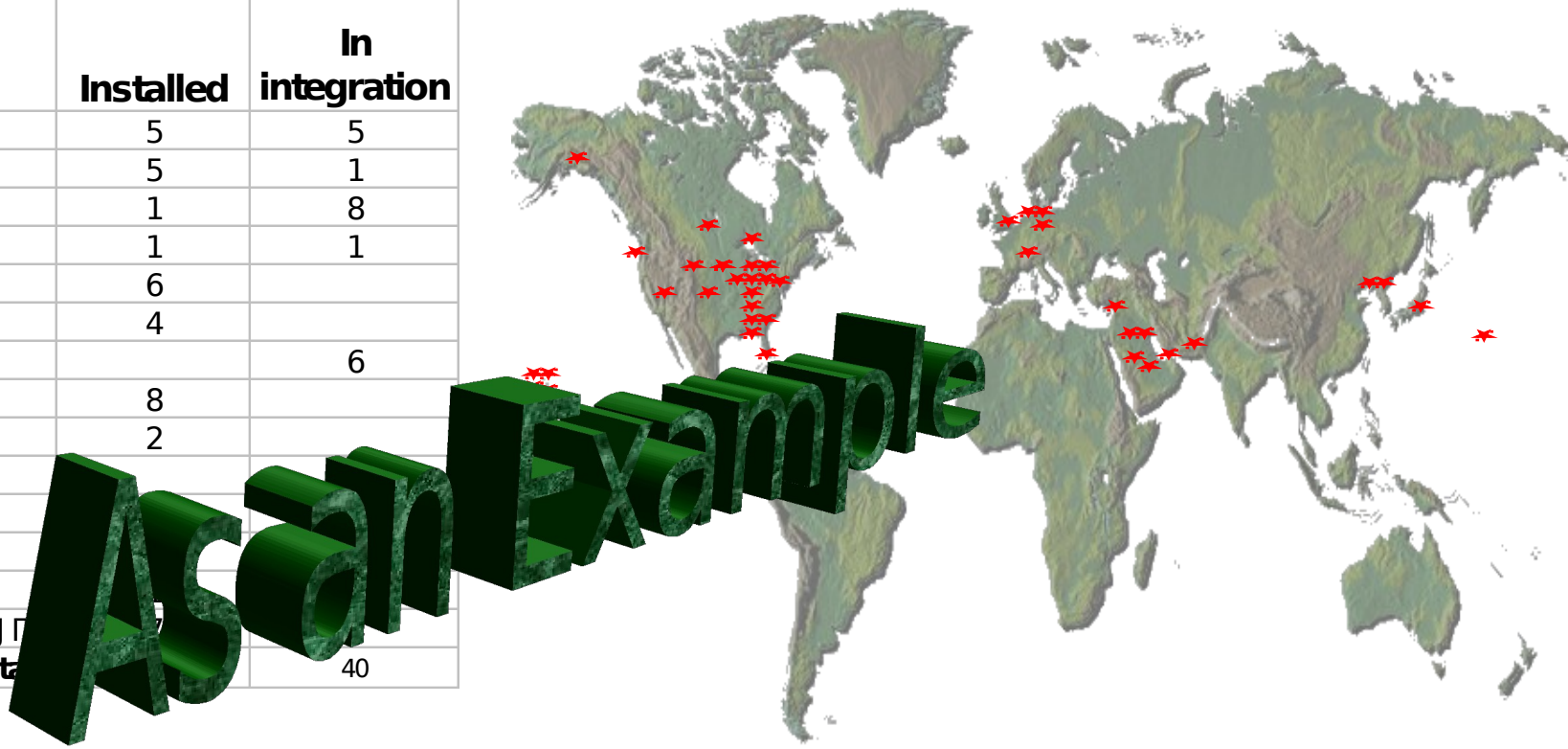
Collaboration Interoperability Testing Levels

- **Augmented capability**
- **Equivalent component functionality**
- **System level interoperability**.

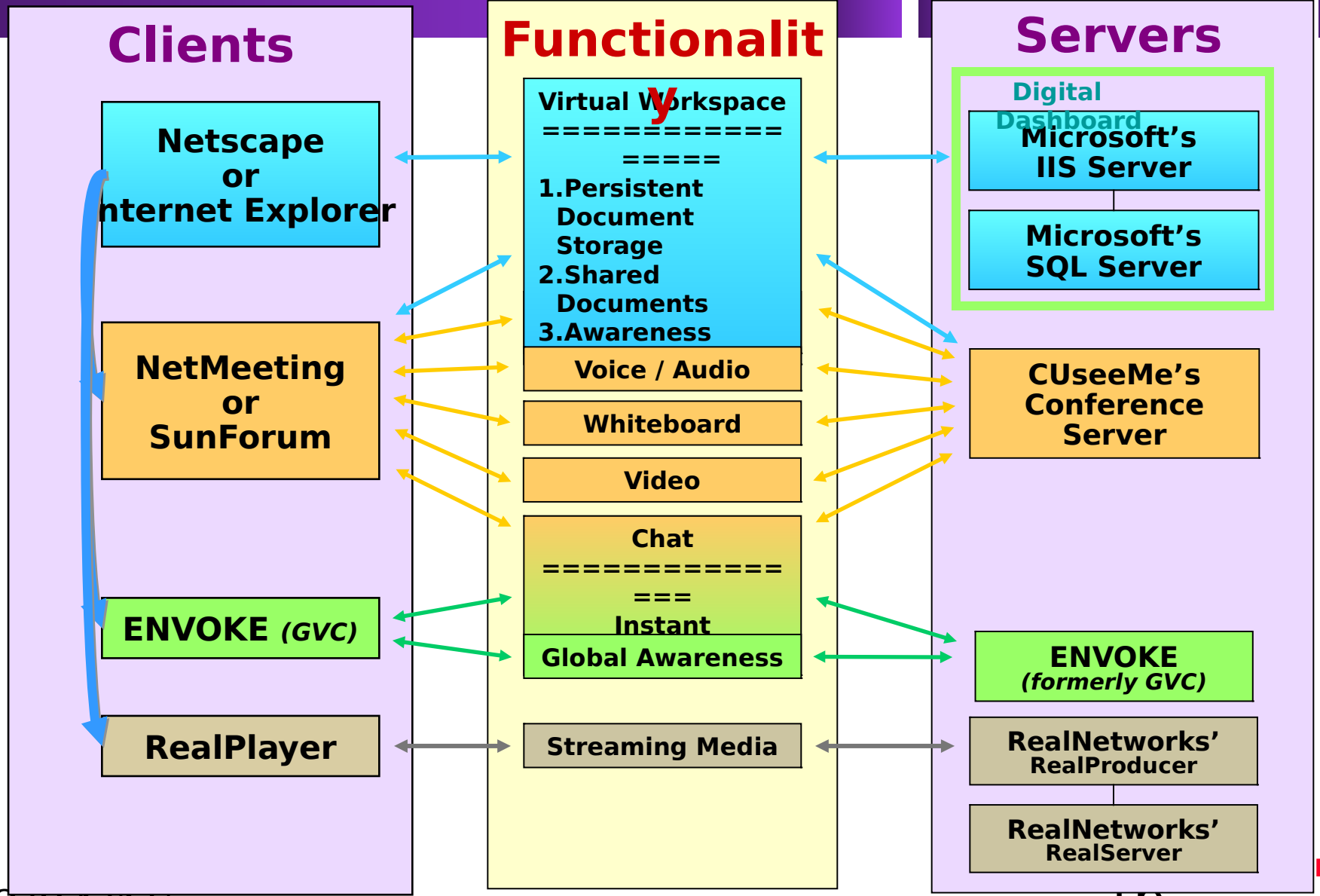
Vendors choose any combination of the above tests in order to test a product for DoD collaboration interoperability and gain certification for that product.

Fielding Status

Command	Installed	In integration
CENTCOM	5	5
EUCOM	5	1
V CORPS	1	8
SETAF	1	1
JFCOM	6	
NORTHCOM	4	
NORAD		6
PACOM	8	
USFK	2	
SOCOM		
SOUTHCOM		
STRATCOM		
TRANSCOM		
DISA, OSD, JS, J		
Tota		40



Goal Architecture of Interim DCTS



Planned DCTS enhancements

Interoperability

- Version 2 Certification testing with Groove, IWS, CAS, … others?
- Upgrade of awareness function to LDAP3 and SIMPLE for v.3
- Upgrade of MCU to SIP
- High performance Network MCU
- Interface to Studio Conferencing
- Language translations in chat

Security

- InfoAssure encryption of data at rest and VPN management
- Role-based access control for group sessions

Associated Certified Apps

- Sharepoint/JEMPRS/DCTS integration *(incl low-bandwidth operations)*
- Knowledge Management (LiveLink, etc)
- Portal Decision Support: Embedded DCTS web parts & dynamic room configuration

Areas of Future Work

- **Performance Measures**
  - **Programmatic**
  - **Mission**
- **Collaboration Etiquette**
- **Collaboration Enterprise Architecture**